

ART. VII.—*Abnormal Circulation of a Frog.*

By ELLINOR ARCHER, B.Sc.

(Government Research Scholar).

(With Plate XVIII).

[Read 9th August, 1917].

During the usual dissection of the frog (*Hyla aurea*) by students in the Biological laboratory of the University of Melbourne, one of the specimens was found to show a hitherto unnoticed abnormal arrangement of certain vessels of the venous system.

The organs were well developed and showed no trace of being affected by the altered circulation as might have been expected, especially in the case of the liver.

The anterior abdominal vein was the chief vessel showing the abnormality. It commenced from the two pelvics as a normal-sized vessel; it then, instead of being augmented by the two parietals, as is normally the case, passed some of its blood into the parietals on the left side, which was an unusually large vessel. The parietal on the right side was normal.<sup>1</sup>

The anterior abdominal beyond the two parietals was smaller than is usually the case, and was continued up the length of the body to the heart, across the liver and across the ventral surface of the heart, entering the left anterior vena cava at the point at which it is formed by the large anterior veins.

The hepatic portal opens directly into the liver without being joined by the anterior abdominal vein, which therefore had no communication whatever with the liver.

The musculo-cutaneous branch of the left subclavian appeared abnormally large, and the branch which enters the muscular body wall was traced down and found to be a continuation of the large abnormal parietal. This vessel ran between the *obliquus externis* and *obliquus internis* muscle of the body wall. Apparently some of the blood via the pelvics and anterior abdominal entered the left parietal and flowed through it to the musculo-cutaneous, and so on into the left anterior vena cava and sinus venosus.

The abnormal connection of the left parietal and musculo-cutaneous vein may be readily explained on the presumption that during the early development the capillaries of these vessels which

